

DEVELOPING A DURABLE GREEN ELECTRIC SKATEBOARD

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## **ABSTRACT**

In recent decades skateboarding has expanded from recreation into a form of transportation, by customizing a conventional skateboard into an electric skateboard. This project presents the design and methodology used in building an electric skateboard that has alternative solar power charging. The main objective of this project is to develop an electric skateboard with high durability and reliability for daily commute with minimum maintenance needed and evaluate by analysing and testing the stress on the electric skateboard. Foremost, this study focus on using a suitable skateboard deck with high durability as well as tensile strength in progressive concave shape to withstand a maximum weight of 100kg and suitable for a beginner skateboarders to balance their bodies. Secondly, this project design and build up a circuit-enclosure with high strength and flexibility to protect the electric components under the deck from easily damage and contact with the road. Moreover, an easily-move solar panel rack is designed and built to convenient the batteries charging process. This project is also sustainable based on high durability and minimum maintenance needed which make increase the commercialization possibilities. The portable electric skateboard is designed as alternative green transportation with high durability of deck, circuit-enclosure and movable solar panel rack.